| Interview Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/792,238 | LEWANDOWSKI ET AL. | |
| | Examiner | Art Unit | |
| | Michael P. Woodward | 1615 | |

All participants (applicant, applicant's representative, PTO personnel):

(1) *Michael P. Woodward*. (3)_____.

(2) *Kent S. Kokko*. (4)_____.

Date of Interview: *18 September 2007*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☒ Yes e)☐ No.
If Yes, brief description: *attached*.

Claim(s) discussed: *1*.

Identification of prior art discussed: *Abuelyamen*.

Agreement with respect to the claims f)☒ was reached. g)☐ was not reached. h)☐ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *A brief discussion concerning the facsimiles of September 7 and 17 occurred which discussion resulted in agreement that the claims are allowable.*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

_____
Examiner's signature, if required

DATE: September 7, 2007
PAGES: **[3]**
(No. of pages including this cover sheet)

TO: Kent S. Kokko
651-733-3597
Facsimile 651-736-3833

Re: SN 10/792238

FROM: Michael P. Woodward
Technology Center 1600
Telephone (571) 272-8373
Facsimile (571) 273-8373

If you have not received all of the pages of this transmission, please contact Michael P. Woodward at the phone number above.

An initial reading of claim 1 would suggest that in part a) there is present an oligomer of Z-Q-$(CH(R^1)-CH_2-Q)_n-R^2$ , nominally $(A)_n$, and a second oligomer with pendant ehylenically unsaturated free-radically polymerizable groups, nominally $(B)_n$ and that in b) a hydrophilic poly(alkylene oxide) crosslinking agent having polymerizable, ethylenically unsaturated terminal groups was present.

However, this reading is apparently to narrow as it appears that applicant intends that an oligomer such as $(A-B)_n$ is within the scope of part a) of claim 1. Indeed, this reading appears overly narrow as applicant clearly intends that $(A-B)_n$ arises not from the polymerization of A and B but through a reaction scheme whereby A and B' are polymerized and B' is subsequently modified to B.

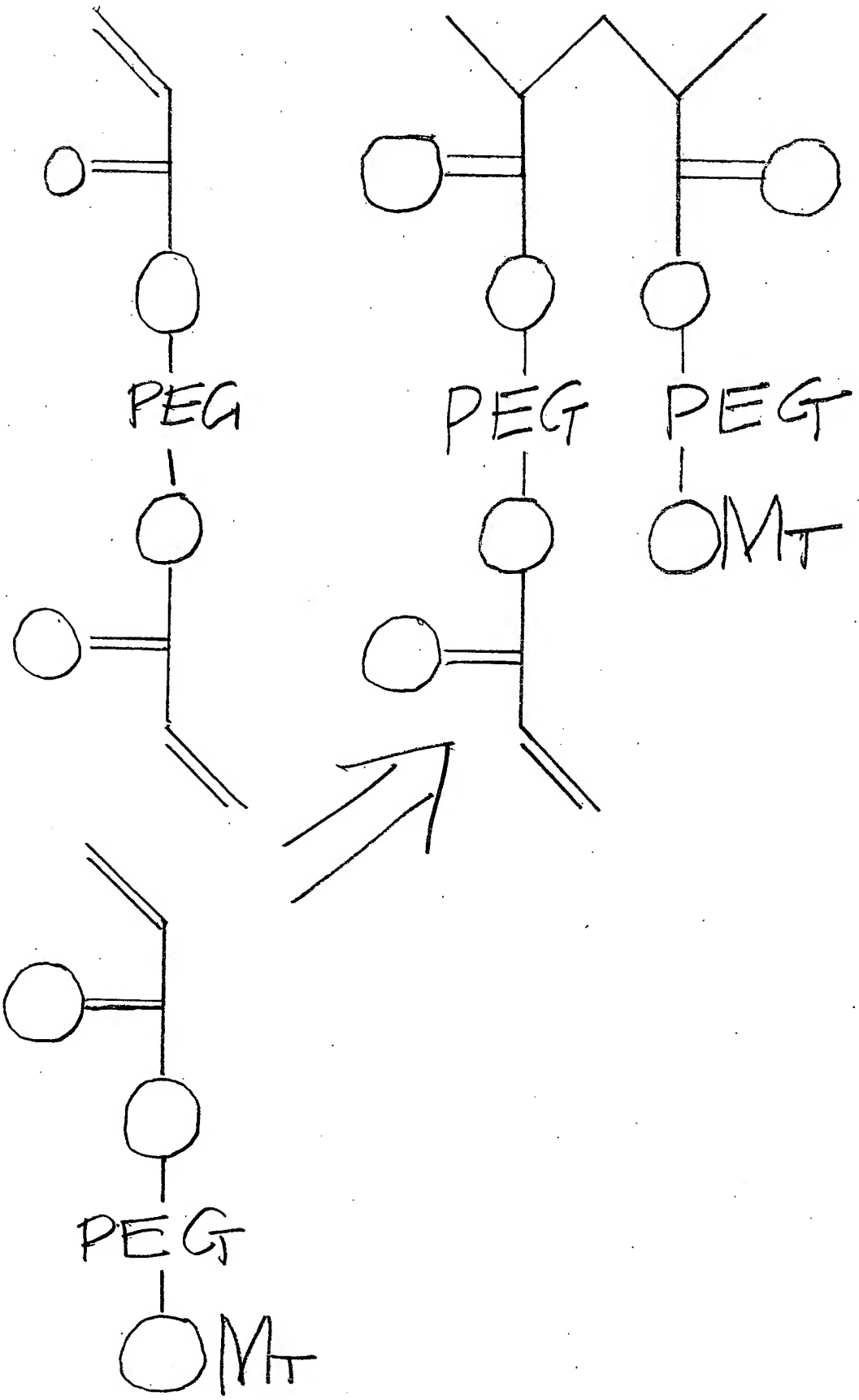
It is further observed that applicant does not exemplify an embodiment of the invention consisting only of A, B and the crosslinking agent of b).

Applicant's comprising language would appear to embrace the inclusion of other monomer units as well as initiators and so forth and thus would appear to read on a composition undergoing polymerization.

Looking at example 4, in Table 3 (p 40 of the prior art), the example composition contains MAA-PEG and MPEG-400, in keeping with the above A and B of part a) of claim 1. MPEG-400 meets the requirement of part b) of claim 1. Also present are lauryl acrylate, nominally C and $\alpha$-methylstyrene, nominally D. Applicants have previously admitted on the record that MAA-PEG meets the limitations of (b).

The mixture in this example is exposed to conditions which induce radical polymerization. During the polymerization reaction there will exist at some time an oligomer containing at least one A and at least one B as well as unreacted A and B. The reaction of A with B forms the oligomer of part a) whereas the free B is b) of claim 1.

From the above it is clear that at an intermediate stage in the polymerization of the components of example 3 the compounds present in the reaction mixture meet the limitations of claim 1.


PEG
PEG
PEG
MT
PEG
MT

TO: Michael P. Woodward, Technology Center 1600 * 571-273-8373

FROM: Kent S. Kokko, 3M Company * 651-733-3597

RE: SN 10/792238

In response to the Fax received from SPE Woodward on September 7, 2007, Applicant's Agent offers the following comments:

At the first paragraph, the Examiner suggests that Applicants first component oligomer, may be a mixture of a first oligomer $(A)_n$, and a second oligomer $(B)_n$. This is incorrect; the first component oligomer comprises both monomer units (A) and (B), as suggested in the second paragraph by the structure $(A\text{-}B)_n$. It will be understood that this $(A\text{-}B)_n$ formula is oversimplified and that claim 1 is not limited to an alternating copolymer of A and B units.

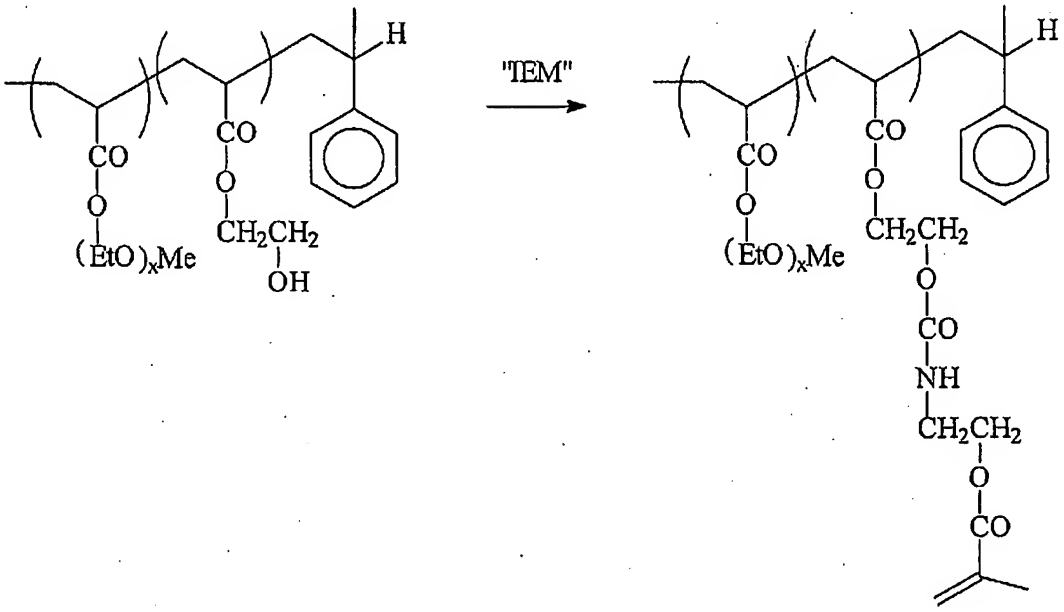
With respect to the Examiner's comments that "Applicant does not exemplify an embodiment of the invention consisting only of A, B, and the crosslinking of b)", Applicants request clarification. This statement may be interpreted in different ways.

If the Examiner is suggesting Applicants prepared no polymers having only A and B monomer units (and no additional monomer units other than A and B), it partially correct. I each of examples 1A-1L, the oligomers are derived from essentially two monomers; MPEG and HEMA. The alpha methylstyrene serves a chain transfer agent, and is present in the product oligomer in minor amounts, and only at the chain terminus.

If the Examiner is suggesting that no examples are provided in which a polyethylenically unsaturated monomer (such as hexanediol diacrylate) is used to provide the resultant oligomer with a pendent unsaturated group, this is correct. This so-called "direct method" is not the preferred method for introducing the pendent unsaturation, as it leads to difficult in the control of branching and premature gellation (crosslinking). Applicant's note this is the reaction scheme proposed in the fax of Sept 7$^{th}$ (incorporation of the difunctional "MAA PEG" in the reaction mixture of Abuelyamen, which does indeed completely crosslink.

Applicants prefer, and each of the Examples are direct to, the so-call "indirect method" where a functional monomer is incorporated into the oligomer, then

subsequently functionalized with an ethylenically unsaturated group. I each of Examples 1A-1L include MPEG (with a pendent polyethyleneoxy group), HEMA (to provide a pendent hydroxy functional group) and alpha methyl styrene (as a chain transfer agent). Subsequent to polymerization, the oligomer is functionalized with 2-isocyanatoethyl methacrylate to provide the pendent unsaturated group. The reaction scheme is illustrated below. After functionalization, the extant oligomer is then combined with MAA-PEG, the poly(alkylene oxide) crosslinking agent having polymerizable, ethylenically unsaturated terminal groups (Applicant component "b)" of claim 1.




SPE Woodward then argues, with reference to the reaction scheme provided with the fax, that "[d]uring the polymerization there will exist at some time an oligomer containing at least one A (the hydrophilic monomer) and at least one B (the unsaturated monomer) as well as unreacted A and B. The reaction of A and B forms the oligomer of part a) whereas free B is b) of claim 1". Applicants disagree with this purported reaction scheme, and again assert the submitted Declaration from the inventors of Abuelyamen et al.

Applicants assert that upon polymerization, the purported oligomer is, at best, a transitory species and immediately begins further reaction with the crosslinking agent,

other free monomers, and with the oligomer itself, so that the pendent unsaturated group in the depicted oligomer is consumed by the crosslinking agent, other free monomers and the oligomer. As the purported transitory species is further reacted, the composition of Abuelyamen is no longer crosslinkable, as required by Claim 1. A calculation (by the inventors of the Abuelyamen reference) of the percent conversion of the depicted reaction scheme vs. molecular weight shows that the mixture reaches the gel point (achieves infinite molecular weight) almost immediately; i.e. the depicted oligomer is transitory, if at all present.

Applicant's Agent has continually argued, without a direct response from the PTO that the rejection is one based on inherency, and therefore the requirements of M.P.E.P. 2112 should be followed. "To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' "

To support an anticipation rejection based on inherency, an examiner must provide factual and technical grounds establishing that the inherent feature *necessarily* flows from the teachings of the prior art. *See Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Int. 1990); *see also In re Oelrich*, 666 F.2d 578, 581, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981) (holding that inherency must flow as a necessary conclusion from the prior art, not simply a possible one). As SPE Woodward has provided some technical reasoning for the rejection, it is believed that Applicant's arguments have rebutted the same. Applicants maintain the oligomer is not a necessary result of the reference teachings, and an unlikely result as well.

Further, the purported intermediates do not support the grounds of rejection. M.P.E.P. 2144.09 states "...if the prior art merely discloses compounds as intermediates in the production of a final product, one of ordinary skill in the art would not have been motivated to stop the reference synthesis and investigate the intermediate compounds with an expectation of arriving at claimed compounds which have different uses. *In re Lalu*, 747 F.2d 703, 223 USPQ 1257 (Fed. Cir. 1984). Applicants note the purported intermediates are merely a conjecture on the part of the Examiner; the reference itself

provides no such disclosure, and the suggestion that the intermediates inherently form has been rebutted by the reference inventors.

In maintaining the rejection, the Examiner may be relying on *SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1343-44, 74 USPQ2d 1398, 1406-07 (Fed. Cir. 2005), holding that a prior art patent to an anhydrous form of a compound "inherently" anticipated the claimed hemihydrate form of the compound because practicing the process in the prior art to manufacture the anhydrous compound "inherently results in at least trace amounts of" the claimed hemihydrate even if the prior art did not discuss or recognize the hemihydrate)."

If so, the case is not germane, as Applicant's process for preparing the claimed oligomer is different from that of the reference. Applicants again refer to the Declaration provided which rebuts such a presumption, along with previous arguments of record, and arguments present here.

For the purposes of the interview (scheduled for 9/18 at 9:00 am DC EST) Applicants were to concede (and do no so concede) that the depicted oligomer is present, then clearly claims 4 and 13 are patentable over the reference.

Claim 4 is directed to less that 2 wt.% residuals. If SPE Woodward's reaction scheme is correct, then the mixture would have unreacted "A" and "B" in excess of this amount.

Claim 13 is direct to the relative amounts of oligomer a) and crosslinking agent b). At the point of reaction where the Abuelyamen mixture would have the recited amount of oligomer, the reaction mixture would be approaching infinite molecular weight as result reaction with the free monomers, crosslinking agent, and purported oligomer; the pendent unsaturated group in the depicted oligomer is consumed.

TO: Michael P. Woodward, Technology Center 1600 * 571-273-8373

FROM: Kent S. Kokko, 3M Company * 651-733-3597

RE: SN 10/792238

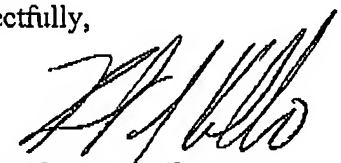
In preparation for the telephone interview with SPE Woodward on September 18, 2007, Applicant's Agent noticed errors in the Response submitted August 9th, 2007.

Specifically, there are two errors in claim 4 of the Response. Claim 4 has the incorrect status identifier of "Currently amended", instead of the correct "Previously presented". Claim 4 was amended in the previous Response dated June 20, 2007.

In addition, there is an underscore between the words "solvent" and "content" that should have been deleted.

Applicant's Agent regrets these errors and any confusion they may have caused.

Respectfully,



Kent S. Kokko, Ph.D

Registration No. 33,931